

**Abstract of the Invention**

A diode-based radiation source is disclosed, having multiple output ports for delivery of radiation to multiple delivery devices such as optical fibers. The radiation source, useful especially for photodynamic therapy and interstitial tumor therapy, contains a number of diode units, wherein a number of individual emitters' output powers are combined to each output port. A computer or other control unit enables the desired output power to be adjusted separately for each port and enables each delivery system to be calibrated individually. In this way, multiple delivery devices can be inserted into a treatment area from a single source and be individually adjusted to provide a desired distribution of radiation power in the treatment area.

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